

ABSTRACT

A storage system conducting remote copy is proposed wherein when data is updated at a local site, contents of the update can also be referred to in real time by storage at a remote site.

The storage system of the present invention comprises at least one disk to store data, a disk-control unit to control writing and reading data to and from the disk or disks, a disk cache for transmitting and receiving data to and from the disk or disks, a file server including a CPU, a main memory to store programs and data for the CPU, and a network interface to be connected to or coupled to clients through a network, and interfaces for sending and receiving data to and from other storage systems through a communication link.

The main memory includes a file system-processing unit managing storage areas of the disk so that files are correlated with locations on the disk and a file-system cache to be used by the file-system processing unit.

The disk-control unit at a remote site receives file data written in accordance with update of a file in a storage system at a local site and a history of the file-management information from the storage system at the local site through a communication link, and stores the data and the history on the disk.

The file-system processing unit refers to the history of the file-management information on the disk and updates the file-management information in the file-system cache in

accordance with the update of the file in the storage system at the local site. Further, when a client connected or coupled to the storage system makes a read request, the file-system processing unit refers to the file-management information updated in the file-system cache and transfer contents of the update of the file to the client.